LOUISVILLE METRO
AIR POLLUTION CONTROL DISTRICT
701 West Ormsby Ave. Suite 303, Louisville, Kentucky 40203

FEDOOP Statement of Basis
5/10/2016

Owner/Source: Swift Pork Company

Plant Location: 1200 Story Avenue, Louisville, Kentucky 40206

Date Application Received: 05/20/2013; 12/04/2015; 01/04/2016; 02/29/2016; 03/14/2016

Date of Draft Permit: 05/25/2013; 03/15/2016

District Engineer: Randy Schoenbaechler **Permit No:** 111-01-F(R7)

Plant ID: 115 **SIC Code:** 2011 N**AICS**: 311611 **AFS:** 00115

Introduction:

This permit will be issued pursuant to District Regulation 2.17, *Federally Enforceable District Origin Operating Permits*. Its purpose is to limit the plant wide potential emission rates from this source to below major source threshold levels and to provide methods of determining continued compliance with all applicable requirements.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO_2), carbon monoxide (CO), 1 hr and 8 hr ozone (O_3), and particulate matter less than 10 microns (PM_{10}); and is a non-attainment area for the 1997 standard for particulate matter less than 2.5 microns ($PM_{2.5}$), unclassifiable for the 2012 standard for particulate matter less than 2.5 microns ($PM_{2.5}$) and partial non-attainment area for sulfur dioxide (SO_2).

Application Type/Permit Activity:

[ ] Initial Issuance

[X] Permit Revision
- [ ] Administrative
- [ ] Minor
- [X] Significant

[ ] Permit Renewal

Compliance Summary:

[X] Compliance certification signed
[ ] Source is out of compliance
[ ] Compliance schedule included
[X] Source is operating in compliance

I. Source Information:

1. Source Description: The source is operating a rendering and meat packing plant.

2. Site Determination: There are no other facilities that are contiguous or adjacent and under common control.

3. Emission Unit Summary:

Emission Unit	Emission Point	Equipment Description
U1	E2	One (1) 26 MMBtu/hr Boiler, natural gas, #2 fuel oil, or animal fat fired
	E3	One (1) 25.1 MMBtu/hr Boiler, natural gas, #2 fuel oil, or animal fat fired
	E4	One (1) 90 MMBtu/hr Boiler, natural gas, #2 fuel oil, or animal fat fired
	E18	One (1) 63.0 MMBtu/hr Boiler. natural gas, #2 fuel oil, or animal fat fired
U2	E5	One (1) Holding Tank
	E6	One (1) Blood Coagulator
	E7	One (1) Centrifuge
	E8	One (1) Blood Dryer (1,550 lb/hr output) 2016
	E8a	One (1) Process Cyclone Separator (1550 lb/hr) 2016
	E8b	One (1) Process Cyclone Separator (1550 lb/hr) 2016
	E8c	One (1) Process Cyclone Separator (1550 lb/hr) 2016
	E11	One (1) Hair Hydrolyzer (4,000 lb/hr) 1992
	E12	One (1) Hammer Mill (15,000 lb/hr) 2001
	E13	One (1) Grinder and One (1) Surge Hopper (11,000 lb/hr) 2001
	E14	One (1) Dupps Continuous Cooker (25,000 lb/hr finished product) 2001
U3	E15	One (1) Wastewater/Grease Treatment System
U4	E17	One (1) Forbo, Model Swift 82516, hot melt glue machine. Installed in 1998

4. Fugitive Sources: There are fugitive VOC and HAP emissions from equipment used to store and transfer petroleum products.

5. FEDOOP Permit 111-01-F Revisions/Changes:

Revision No.	Issue Date	Public Notice Date	Type	Page No.	Description
N/A	9/9/2002	7/28/2002	Initial	Entire Permit	Initial Permit Issuance
Rev. 1	1/13/2003	11/17/2002	Admin	Entire Permit	Name Change
Rev. 2	6/30/2008	5/14/2007	Renewal	Entire Permit	Scheduled 5 yr Permit Renewal. Incorporate permit 398-05-C.
Rev. 3	2/9/2009	12/23/2008	Significant	Entire Permit	Revised monitoring, record keeping, and reporting requirements due to compliance issues. Incorporate permit 637-07-C.
Rev. 4	1/22/2014	5/25/2013	Renewal	Entire Permit	Scheduled 5 yr Permit Renewal. Incorporate permit 788-08-C, 43-09-C, 65-09-C, 69-09-C, 83-09-C, 33252-11-C(R1).
Rev. 5	11/03/2015	N/A	Admin	Page 33 and 41	Add the minimum flow rate for C4 venturi scrubber and removed the one time reporting requirement to establish the minimum flow rate.
Rev. 6	12/03/2015	N/A	Admin	Cover Page	Corrected Company Name

Revision No.	Issue Date	Public Notice Date	Type	Page No.	Description
Rev. 7	05/10/2016	03/15/2016	Significant	Emission Unit U2, U3, and U4; standards, monitoring, record keeping, and reporting for VOCs and Odor	Addition of Unit Operation Limit with associated monitoring, record keeping and reporting in order to validate September 2013Stack Test. Removal of water flow rate monitoring and record keeping for the Dupps cooker and Hair Hydrolyzer. Clarification of temperature requirements for the blood dryer. Incorporate construction permit C-0115-1003-16-F for the new blood dryer. Clarified Regulation 7.25 requirements in Unit 2, Unit 3, and Unit 4. Adding minimum flow rate and maximum residual free chlorine concentration of 20K scrubber for Unit 3.

6. Plant-wide Emission Summary:

Pollutant	District Calculated Actual Emissions (tpy) 2014 Data	Major Source Status (based on PTE)
CO	11.22	Yes
NO_x	13.35	Yes
SO_2	0.08	Yes
PM/PM_{10}	2.28/2.28	Yes
VOC	5.54	Yes
Total HAPs	0.25	No
Single HAP > 1 tpy	0.24	No
GHG	252,008*	Yes

*Note: The GHG are potential to emit (PTE) emissions not actual emissions.

7. Applicable Requirements:

[ ] PSD	[X] 40CFR60	[X] SIP	[ ] 40CFR63
[ ] NSR	[ ] 40CFR61	[X] District-Origin	[ ] Other

8. MACT Requirements:

N/A

40 CFR 63 Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources emission standards are not applicable by definition. §63.11195 lists boilers not subject to the subpart and §63.11195(e) states "A gas fired boiler as defined in this subpart." §63.11237 defines a gas fired boiler as "Gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels, burns liquid fuel only during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year."

9. Referenced Federal Regulations in Permit:

40 CFR 60 Subpart A	General Provisions
40 CFR 60 Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

II. Regulatory Analysis:

1. Acid Rain Requirements: The source is not subject to the Acid Rain Program.

2. Stratospheric Ozone Protection Requirements: Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. This source does not manufacture, sell, or distribute any of the listed chemicals. The source's use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

3. Prevention of Accidental Releases 112(r): The source does manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68, Subpart F, and District Regulation 5.15, *Chemical Accident Prevention Provisions*, in a quantity in excess of the corresponding specified threshold amount.

4. Basis of Regulation Applicability:

a. Plant-wide Regulations:

Regulation 2.17 applies since the potential emissions of VOC, CO, GHG, PM_{10}, SO_2 and NO_X exceeds the major source threshold levels. VOC has a plant-wide emissions limit of 22 tons per 12 consecutive month, PM_{10} a limit of 50 tons, CO a limit of 50 tons, and CO_2e a limit of 100,000 tons. The plant-wide emissions of SO_2 and NO_X are both limited to 50 tons per 12 consecutive month period in order to remain a synthetic minor source. The source also has a plant-wide limit on the amount of #2 fuel oil that can be combusted and the sulfur content of the #2 fuel oil in order to remain a synthetic minor source. The source has a unit operation limit

of no than 10,500 hogs processed per day. Regulations 5.00, 5.01, 5.21, 5.22, and 5.23 (STAR Program) establishes requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards. The Plant-wide section of the permit also contains requirements for the source to monitor the site daily for odors and take corrective action to minimize the odors and additionally to implement the approved fugitive dust control plan.

b. Applicable Regulations:

Regulation	Title	Type
1.13	Control of Objectionable Odors in the Ambient Air	Local
1.14	Control of Fugitive Particulate Emissions	Local
2.17	Federally Enforceable District Origin Operating Permits	SIP
5.00	Standards for Toxic Air Contaminants and Hazardous Air Pollutants	Local
5.01	General Provisions	SIP
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	Local
5.21	Environmental Acceptability for Toxic Air Contaminants	Local
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	Local
5.23	Categories of Toxic Air Contaminants	Local
7.02	Adoption of Federal New Source Performance Standards	SIP
7.06	Standards of Performance for New Indirect Heat Exchangers	SIP
7.08	Standards of Performance for New Process Operations	SIP
7.09	Standards of Performance for New Process Gas Streams	SIP
7.25	Standard of Performance for New Sources Using Volatile Organic Compounds	SIP
40 CFR 60 Subpart A	SUBPART A—General Provisions	Federal
40 CFR 60 Subpart Dc	SUBPART Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	Federal

c. Basis for Applicable Regulations:

Regulation	Basis for Applicability
1.13	This regulation provides for the control of objectionable odors in the ambient air.
1.14	This regulation provides for the control of fugitive particulate emissions in the ambient air.
2.17	Establishes procedures for the issuance of federally enforceable District origin operating permits.
5.00, 5.01, 5.20, 5.21, 5.22, & 5.23	Establish the criteria for determining the environmental acceptability of emissions of toxic air contaminants.
7.02	Source subject to NSPS.
7.06	Applies to each indirect heat exchanger having input capacity of more than one million BTU per hour commenced after September 1, 1976.

Regulation	Basis for Applicability
7.08	Equipment installed after September 1, 1976 and subject to the PM emission standard.
7.09	Equipment installed after April 19, 1972 not elsewhere subject to a standard of performance within these regulation with respect to hydrogen sulfide, sulfur dioxide, or carbon monoxide.
7.25	Establishes the requirements for VOC emissions, applies to a process not elsewhere regulated in District Regulation 7, and applies to new processes commenced after June 13, 1979.
40 CFR 60 Subpart A	Source subject to NSPS.
40 CFR 60 Subpart Dc	Applies to each steam generating unit that commences construction, modification, or reconstruction after June 9, 1989, and that has a heat input capacity from fuels combusted in the steam generating unit of less than 29 megawatts (MW) (100 MMBtu/hr)).

d. Emission Unit 1 – Four Boilers:

i. Applicable Regulations:

P/PE	Capacity	Installation Date	Applicable Regulation
Boiler #2 (E2)	26 MMBtu/hr	1981	7.06
			5.00, 5.20, 5.21, 5.23
Boiler #3 (E3)	25.1 MMBtu/hr	1981	7.06
			5.00, 5.20, 5.21, 5.23
Boiler #4 (E4)	90 MMBtu/hr	2005	7.06
			5.00, 5.20, 5.21, 5.23
			40 CFR 60 Subpart Dc
Boiler #5 (E18)	63.0 MMBtu/hr	2009	7.06
			5.00, 5.20, 5.21, 5.23
			40 CFR 60 Subpart Dc

ii. Standards/Operating Limits:

1) **SO_2**

a) Regulation 7.06, section 5.1.1 requires the SO_2 emissions to be less than or equal to 1.0 lb/MMBtu for liquid or gaseous fuels if the source has total heat input capacity of less than 145 MMBtu/hr.

b) Regulation 7.06, section 5.1.3 requires the SO_2 emissions to be less than or equal to the value obtained from the following equation 7.7223 (Total Heat Input Capacity (204.86 MMBtu/hr))$^{-0.4106}$, which equals 0.868 lb/MMBtu, for liquid or gaseous fuels if the source has total heat input capacity of greater than 145 MMBtu/hr but less than 250 MMBtu/hr.

2) **PM**

a) Regulation 7.06, section 4.1.4 requires the PM emissions to be less than or equal to the value obtained from the following equation 1.919 (Total Heat Input Capacity (114.86 MMBtu/hr))$^{-0.535}$, which equals 0.151 lb/MMBtu, for liquid or gaseous fuels if the source has total heat input capacity of greater than 10 MMBtu/hr but less than 250 MMBtu/hr.

b) Regulation 7.06, section 4.1.4 requires the PM emissions to be less than or equal to the value obtained from the following equation 1.919 (Total Heat Input Capacity (204.86 MMBtu/hr))$^{-0.535}$, which equals 0.111 lb/MMBtu, for liquid or gaseous fuels if the source has total heat input capacity of greater than 10 MMBtu/hr but less than 250 MMBtu/hr.

3) **Opacity**

Regulation 7.06, section 4.2 requires indirect heat exchagers less than 250 MMBtu/hr to limit the opacity to less than or equal to 20% except; for a maximum of 40% opacity for not more than 2 minutes during any 60 consecutive minutes, for a maximum of 40% for not more than 6 minutes during any 60 consecutive minutes during cleaning the fire box or blowing soot, or during building a new fire the time does not exceed the manufacturers recommendation.

4) **TAC**

Per Regulations 5.00 and 5.21, TAC emissions must not exceed environmentally acceptable levels. The District determined that based on the Environmental Acceptability Demonstration submitted on September 30, 2008 that based on fuel oil limitations TAC emissions are compliant with acceptable risk levels.

iii. Monitoring and Record Keeping:

1) **SO_2**

a) Regulation 7.06 does not contain sufficient monitoring or record keeping requirements, however, Regulation 2.17, section 5.2 requires sufficient monitoring and record keeping to assure compliance with the terms and conditions of this permit.

b) 40 CFR 60 Subpart Dc (40 CFR 60.48c(g)) requires daily record keeping of the quantity and type of fuel combusted in each boiler.

c) 40 CFR 60 Subpart Dc (40 CFR 60.48c(f)(1)) requires a lab analysis or supplier certification showing the sulfur content of each shipment of #2 fuel oil.

2) **PM**

Regulation 7.06 does not contain sufficient monitoring or record keeping requirements, however, Regulation 2.17, section 5.2 requires sufficient monitoring and record keeping to assure compliance with the terms and conditions of this permit.

3) **Opacity**

Regulation 7.06 does not contain sufficient monitoring or record keeping requirements, however, Regulation 2.17, section 5.2 requires sufficient monitoring and record keeping to assure compliance with the terms and conditions of this permit.

4) **TAC**

Regulation 5.21, section 4.10 requires that records shall be maintained that demonstrate environmental acceptability. In addition, the owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions if a new TAC is introduced or the content of a TAC in a raw material increases.

v. Reporting:

1) **SO_2**

Regulation 7.06 does not contain sufficient reporting requirements, however, Regulation 2.17, section 5.2 requires

sufficient reporting to assure compliance with the terms and conditions of this permit.

2) **PM**

Regulation 7.06 does not contain sufficient reporting requirements, however, Regulation 2.17, section 5.2 requires sufficient reporting to assure compliance with the terms and conditions of this permit.

3) **Opacity**

Regulation 7.06 does not contain sufficient reporting requirements, however, Regulation 2.17, section 5.2 requires sufficient reporting to assure compliance with the terms and conditions of this permit.

4) **TAC**

Regulation 5.21 does not contain sufficient reporting requirements, however, Regulation 2.17, section 5.2 requires sufficient reporting to assure compliance with the terms and conditions of this permit. Additionally, any conditions inconsistent with the most recent EA demonstration must be reported (or a negative declaration). In addition, re-evaluated EA demonstrations must be reported within 6 months of a raw material change.

e. Emission Unit 2 – Inedible Rendering Operation:

i. Applicable Regulations:

P/PE	Capacity	Installation Date	Applicable Regulation
Holding Tank (E5)	2,500 lb/hr Output	1991	1.13
			5.00, 5.20, 5.21, 5.23
			7.25
Blood Coagulator (E6)	2,500 lb/hr Output	1991	1.13
			5.00, 5.20, 5.21, 5.23
			7.25
Centrifuge (E7)	2,500 lb/hr Output	1991	1.13
			5.00, 5.20, 5.21, 5.23
			7.25

P/PE	Capacity	Installation Date	Applicable Regulation
Blood Dryer (E8)	1,550 lb/hr Output	2016	1.13
			5.00, 5.20, 5.21, 5.23
			7.08
			7.09
			7.25
Process Cyclone Separator (E8a)	1,550 lb/hr Output	2016	1.13
			5.00, 5.20, 5.21, 5.23
			7.08
			7.25
Process Cyclone Separator (E8b)	1,550 lb/hr Output	2016	1.13
			5.00, 5.20, 5.21, 5.23
			7.08
			7.25
Process Cyclone Separator (E8c)	1,550 lb/hr Output	2016	1.13
			5.00, 5.20, 5.21, 5.23
			7.08
			7.25
Hair Hydrolyzer (E11)	4000 lb/hr	1992	1.13
			5.00, 5.20, 5.21, 5.23
			7.08
			7.25
Hammer Mill (E12)	15,000 lb/hr	2001	1.13
			5.00, 5.20, 5.21, 5.23
			7.08
			7.25
Grinder and Surge Hopper (E13)	11,000 lb/hr	2001	1.13
			5.00, 5.20, 5.21, 5.23
			7.08

P/PE	Capacity	Installation Date	Applicable Regulation
			7.25
Dupps Continuous Cooker (E14)	25,000 lb/hr Output	2001	1.13
			5.00, 5.20, 5.21, 5.23
			7.08
			7.25

ii. Standards/Operating Limits:

1) **PM**

a) For the Blood Dryer (E8) and two Process Cyclone Separators (E9 and E10), the PM limits are calculated per Regulation 7.08, section 3.1.2. The equation to calculate the emission limits is $E = 3.59P^{0.62}$, where P is expressed in tons/hr. The maximum throughput is 2500 pounds per hour; therefore, the PM emission standard is 4.12 lb/hr.

b) For the Hair Hydrolyzer (E11), the PM limits are calculated per Regulation 7.08, section 3.1.2. The equation to calculate the emission limits is $E = 3.59P^{0.62}$, where P is expressed in tons/hr. The maximum throughput is 4000 pounds per hour; therefore, the PM emission standard is 5.51 lb/hr.

c) For the Hammer Mill (E12), the PM limits are calculated per Regulation 7.08, section 3.1.2. The equation to calculate the emission limits is $E = 3.59P^{0.62}$, where P is expressed in tons/hr. The maximum throughput is 15000 pounds per hour; therefore, the PM emission standard is 12.52 lb/hr.

d) For the Grinder and Surge Hopper (E13), the PM limits are calculated per Regulation 7.08, section 3.1.2. The equation to calculate the emission limits is $E = 3.59P^{0.62}$, where P is expressed in tons/hr. The maximum throughput is 11000 pounds per hour; therefore, the PM emission standard is 10.33 lb/hr.

e) For the Dupps Continuous Cooker (E14), the PM limits are calculated per Regulation 7.08, section

3.1.2. The equation to calculate the emission limits is $E = 3.59P^{0.62}$, where P is expressed in tons/hr. The maximum throughput is 25000 pounds per hour; therefore, the PM emission standard is 26.41 lb/hr.

2) **Opacity**

Regulation 7.08, section 3.1.1 establishes an opacity standard of less than 20%.

3) **Odor**

Regulation 1.13, section 2.1 establishes a standard for odor that no objectionable odors can cross the property line.

4) **Hydrogen Sulfide (H_2S)**

Regulation 7.09, section 3.1 establishes a standard for H_2S of 10 grains/100 dscf.

5) **NOx**

Regulation 7.08, section 4.1 establishes a standard for NOx of 300 ppmv.

6) **VOC**

a) Per Regulation 2.17 the VOC emission limit set for the equipment cannot exceed twenty two (22) tons, plant-wide, during any consecutive 12-month period.

b) Per Regulation 7.25 VOC emissions from equipment subject to Regulation 7.25 cannot exceed fifteen (15) tons during any consecutive 12-month period (BACT).

7) **TAC**

Regulations 5.00 and 5.21 require that TAC emissions do not exceed environmentally acceptable levels, whether specifically established by modeling or determined by the District to be de minimis.

iii. Monitoring and Record Keeping:

1) **PM**

a) For the Blood Dryer (E8) and two Process Cyclone Separators (E9 and E10), the potential controlled PM

emissions cannot exceed the PM limits. Regulation 7.08 does not contain sufficient monitoring or record keeping requirements, however, Regulation 2.17, section 5.2 requires sufficient monitoring and record keeping of the control devices to assure compliance with the terms and conditions of this permit.

b) For the Hair Hydrolyzer (E11), Hammer Mill (E12), Grinder and Surge Hopper (E13), and Dupps Continuous Cooker (E14), the potential uncontrolled PM emissions cannot exceed the PM limits.

2) **Opacity**

Regulation 7.08 does not contain sufficient monitoring or record keeping requirements, however, Regulation 2.17, section 5.2 requires sufficient monitoring and record keeping to assure compliance with the terms and conditions of this permit.

3) **Odor**

Regulation 1.13 does not contain sufficient monitoring or record keeping requirements, however, Regulation 2.17, section 5.2 requires sufficient monitoring and record keeping to assure compliance with the terms and conditions of this permit.

4) **Hydrogen Sulfide (H_2S)**

The potential uncontrolled H_2S emissions cannot exceed the standard.

5) **NOx**

The potential uncontrolled NO_x emissions cannot exceed the standard.

6) **VOC**

Regulation 7.25 does not contain sufficient monitoring or record keeping requirements, however, Regulation 2.17, section 5.2 requires sufficient monitoring and record keeping assuring ongoing compliance with the terms and conditions of the permit.

7) **TAC**

Regulation 5.21, section 4.10 requires that records shall be maintained that demonstrate environmental acceptability. In addition, the owner or operator shall re-evaluate the environmental acceptability and document the environmentally

acceptable emissions if a new TAC is introduced or the content of a TAC in a raw material increases.

iv. Reporting:

1) **PM**

a) For the Blood Dryer (E8) and two Process Cyclone Separators (E9 and E10), the potential controlled PM emissions cannot exceed the PM limits. Regulation 7.08 does not contain sufficient reporting requirements, however, Regulation 2.17, section 5.2 requires sufficient reporting of the control devices to assure compliance with the terms and conditions of this permit.

b) For the Hair Hydrolyzer (E11), Hammer Mill (E12), Grinder and Surge Hopper (E13), and Dupps Continuous Cooker (E14), the potential uncontrolled PM emissions cannot exceed the PM limits.

2) **Opacity**

Regulation 7.08 does not contain sufficient reporting requirements, however, Regulation 2.17, section 5.2 requires sufficient reporting to assure compliance with the terms and conditions of this permit.

3) **Odor**

Regulation 1.13 does not contain sufficient reporting requirements, however, Regulation 2.17, section 5.2 requires sufficient reporting to assure compliance with the terms and conditions of this permit.

4) **Hydrogen Sulfide (H_2S)**

The potential uncontrolled H_2S emissions cannot exceed the standard.

5) **NOx**

The potential uncontrolled NO_x emissions cannot exceed the standard.

6) **VOC**

Regulation 7.25 does not contain sufficient reporting requirements, however, Regulation 2.17, section 5.2 requires

reporting to assure compliance with the terms and conditions of the permit.

7) **TAC**

Regulation 5.21 does not contain sufficient reporting requirements, however, Regulation 2.17, section 5.2 requires reporting to assure compliance with the terms and conditions of the permit. Additionally, any conditions inconsistent with the most recent EA demonstration must be reported (or a negative declaration). In addition, re-evaluated EA demonstrations must be reported within 6 months of a raw material change.

f. Emission Unit 3 – Wastewater Treatment System:

i. Applicable Regulations:

P/PE	Capacity	Installation Date	Applicable Regulation
Wastewater Treatment System (E15)	1,500 gpm	2001	1.13
			7.25
			5.00, 5.20, 5.21, 5.23

ii. Standards/Operating Limits:

1) **Odor**

Regulation 1.13, section 2.1 establishes a standard for odor that no objectionable odors can cross the property line.

2) **VOC**

a) Per Regulation 2.17 the VOC emission limit set for the equipment cannot exceed twenty two (22) tons, plant-wide, during any consecutive 12-month period.

b) Per Regulation 7.25 VOC emissions from equipment subject to Regulation 7.25 cannot exceed fifteen (15) tons during any consecutive 12-month period (BACT).

3) **TAC**

Regulations 5.00 and 5.21 require that TAC emissions do not exceed environmentally acceptable levels, whether specifically established by modeling or determined by the District to be de minimis.

iii. Monitoring and Record Keeping:

1) **Odor**

Regulation 1.13 does not contain sufficient monitoring or record keeping, however, Regulation 2.17, section 5.2 requires sufficient monitoring and record keeping to assure compliance with the terms and conditions of this permit.

2) **VOC**

Regulation 7.25 does not contain sufficient monitoring or record keeping requirements, however, Regulation 2.17, section 5.2 requires sufficient monitoring and record keeping assuring ongoing compliance with the terms and conditions of the permit.

3) **TAC**

Regulation 5.21, section 4.10 requires that records shall be maintained that demonstrate environmental acceptability. In addition, the owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions if a new TAC is introduced or the content of a TAC in a raw material increases.

iv. Reporting:

1) **Odor**

Regulation 1.13 does not contain sufficient reporting requirements, however, Regulation 2.17, section 5.2 requires sufficient reporting to assure compliance with the terms and conditions of this permit.

2) **VOC**

Regulation 7.25 does not contain sufficient reporting requirements, however, Regulation 2.17, section 5.2 requires reporting to assure compliance with the terms and conditions of the permit.

3) **TAC**

Regulation 5.21 does not contain sufficient reporting requirements, however, Regulation 2.17, section 5.2 requires sufficient reporting to assure compliance with the terms and conditions of this permit. Additionally, any conditions inconsistent with the most recent EA demonstration must be reported (or a negative declaration). In addition, re-evaluated EA demonstrations must be reported within 6 months of a raw material change.

g. Emission Unit 4 – Hot-Melt Glue/Adhesive Machine:

i. Applicable Regulations:

P/PE	Capacity	Installation Date	Applicable Regulation
Hot Melt Glue Machine (E17)	14 lb glue/hr	1998	7.25
			5.00, 5.20, 5.21, 5.23

ii. Standards/Operating Limits:

1) **VOC**

a) Per Regulation 2.17 the VOC emission limit set for the equipment cannot exceed twenty two (22) tons, plant-wide, during any consecutive 12-month period.

b) Regulation 7.25 requires Best Available Control Technology level of control if the potential pre-control emissions exceed 5 tons per year. The source is subject to a *plant-wide* VOC limit of 5.0 tons per year for affected facilities subject to Regulation 7.25, that do not have a BACT analysis.

2) **TAC**

Per Regulations 5.00 and 5.21, TAC emissions must not exceed environmentally acceptable levels. The District determined that based on the Environmental Acceptability Demonstration submitted on September 30, 2008 that based on fuel oil limitations TAC emissions are compliant with acceptable risk levels.

iii. Monitoring and Record Keeping:

1) **VOC**

Regulation 7.25 does not contain sufficient monitoring or record keeping requirements, however, Regulation 2.17, section 5.2 requires sufficient monitoring and record keeping requirements to assure compliance with the terms and conditions of the permit.

2) **TAC**

Regulation 5.21, section 4.10 requires that records shall be maintained that demonstrate environmental acceptability. In addition, the owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions if a new TAC is introduced or the content of a TAC in a raw material increases.

iv. Reporting:

1) **VOC**

Regulation 7.25 does not contain sufficient reporting requirements, however, Regulation 2.17, section 5.2 requires sufficient reporting requirements to assure compliance with the terms and conditions of the permit.

2) **TAC**

Regulation 5.21 does not contain sufficient reporting requirements, however, Regulation 2.17, section 5.2 requires sufficient reporting to assure compliance with the terms and conditions of this permit. Additionally, any conditions inconsistent with the most recent EA demonstration must be reported (or a negative declaration). In addition, re-evaluated EA demonstrations must be reported within 6 months of a raw material change.

III. Other Requirements:

1. Temporary Sources: The source did not request to operate any temporary facilities.

2. Short Term Activities: The source did not report any short term activities.

3. Emissions Trading: N/A

4. Alternative Operating Scenarios: The source did not request to operate under any alternative operating scenarios.

5. Compliance History:

Incident Date(s)	Regulations Violated		Result
11/25/1997	1.13	Odors: Prohibition	Agreement
10/20/1998	1.14	Fugitive Notif: Unpaved Road/Parking	Agreement
11/16/1998	1.13	Odors: Prohibition	Agreement
11/19/1998	1.13	Odors: Prohibition	Agreement
4/30/1999	1.13	Odors: Prohibition	Agreement
6/15/1999	1.13	Odors: Prohibition	Agreement
2/9/2000	1.13	Odors: Prohibition	Agreement
2/17/2000	1.13	Odors: Prohibition	Agreement
2/24/2000	1.13	Odors: Prohibition	Agreement
8/8/2000	1.13	Odors: Prohibition	Agreement
9/14/2000	1.13	Odors: Prohibition	Agreement
10/2/2000	1.13	Odors: Prohibition	Agreement
1/4/2001	1.13	Odors: Prohibition	Agreement
2/9/2001	1.13	Odors: Prohibition	Agreement

4/17/2000	1.06	Source Self Monitoring: Emissions Reporting	Agreement
4/30/2001	1.13	Odors: Prohibition	Agreement
6/5/2001	1.13	Odors: Prohibition	Agreement
6/8/2001	1.13	Odors: Prohibition	Agreement
10/4/2001	1.13	Odors: Prohibition	Agreement
4/17/2002	1.13	Odors: Prohibition	Agreement
4/30/2002	1.13	Odors: Prohibition	Agreement
7/1/2002	1.13	Odors: Prohibition	Agreement
7/5/2002	1.13	Odors: Prohibition	Agreement
7/19/2002	1.13	Odors: Prohibition	Agreement
7/22/2002	1.13	Odors: Prohibition	Agreement
7/29/2002	1.13	Odors: Prohibition	Agreement
9/11/2002	1.14	Fugitive: Visible Past Property Line	Agreement
4/28/2003	1.13	Odors: Prohibition	Agreement
10/13/2003	1.13	Odors: Prohibition	Agreement
4/14/2004	2.03	Permit Conditions: Binding	Board
4/14/2004	2.17	Compliance with Permit	Board
3/23/2006	1.13	Odors: Prohibition	Agreement
4/13/2005	1.13	Odors: Prohibition	Agreement
1/17/2006	1.13	Odors: Prohibition	Agreement
6/13/2006	1.13	Odors: Prohibition	Board
2/1/2006	1.07	Failure to Report Excess Emissions	Board
2/1/2006	1.13	Odors: Prohibition	Board
2/14/2006	1.13	Odors: Prohibition	Board
4/5/2006	1.13	Odors: Prohibition	Board
6/7/2006	1.13	Odors: Prohibition	Board
6/8/2007	1.13	Odors: Prohibition	Board
4/15/2007	2.17	Compliance with Permit	Board
4/6/2007	1.13	Odors: Prohibition	Board
11/24/2003	5.15	General Requirements - RMP Submittal Required	Board
7/10/2007	1.13	Odors: Prohibition	Board
10/11/2007	1.13	Odors: Prohibition	Board
9/25/2007	1.13	Odors: Prohibition	Board
12/5/2007	1.13	Odors: Failure to Notify	Board
12/5/2007	1.13	Odors: Prohibition	Board
8/1/2007	1.13	Odors: Prohibition	Board
2/19/2007	1.13	Odors: Prohibition	Board
11/16/2007	5.15	General Requirements - RMP Submittal Required	Board
10/6/2008	1.13	Odors: Prohibition	Board
11/25/2008	1.13	Odors: Prohibition	Board
1/13/2009	1.13	Odors: Prohibition	Board
3/6/2009	1.13	Odors: Prohibition	Board
4/16/2009	1.13	Odors: Prohibition	Board
2/24/2010	2.17	Compliance with Permit	Board
6/18/2013	2.17	Compliance with Permit	Board
9/2/2014	2.17	Compliance with Permit	Board
1/26/2013	2.17	Compliance with Permit	Board
3/2/2015	2.17	Compliance with Permit	Board

6. Calculation Methodology:

a. For Combustion emissions:

The following emission factors are approved by the District to determine actual emissions for the boilers, unless more accurate emission factors become available.

Fuel	NO_x	SO_2	PM	PM_{10}	$PM_{2.5}$	CO	VOC	CO_2	CH_4	N_2O
Natural Gas (lb/mmcf)	100	0.6	7.6	7.6	7.6	84	5.5	120000	2.3	2.2
#2 Fuel Oil (lb/1000 gal)	20	71	2	1	0.25	5	0.556	22300	0.052	0.26
Animal Fat (lb/1000 gal)	24	0.07	10	10	10	4	0.5	25919.7	0.052	0.26

For each pollutant,
(Emission Factor)* (Fuel Usage/month)*(ton/2000 lb) = Emissions (in ton/month)
For Example:
(100 lb/mmcf)*(25 mmcf/month)*(ton/2000 lb) = 1.25 ton/month
For Greenhouse Gases (GHG) limit,
(Emissions of CO_2) + 23*(Emissions of CH_4) + 310*(Emissions of N_2O) = Emissions of CO_2e
For Example:
(5,000 ton/month) + 23*(10 ton/month) + 310*(1 ton/month) = 5540 ton/month

b. For VOC emissions:

To calculate the monthly and 12 consecutive month VOC emissions for emission points E5, E6, E7, E8, E8a, E8b, E8c, E11, E12, E13a, E13b, E14, and E15 (wastewater treatment) in order to demonstrate compliance with 15.0 tons per 12 consecutive month period standard the following calculation is approved by the District.

To calculate pounds of VOC emissions from emission points E5, E6, E7, E8, E8a, E8b, E8c, E11, E12, E13a, E13b, E14, and Emission Unit 3 E15 (wastewater treatment) per month:

When the Primary Controls (Condensers to Boilers, not the 40K Scrubber) were used for E11 (Hair Hydrolyser) and/or E14 (Dupps Cooker):

(Controlled Emission Rate from stack test (lb/hr))*(hours E11 controlled by; Condenser and Boiler during a given month)

Plus

(Controlled Emission Rate from the stack test (lb/hr))*(hours E14 controlled by; Condenser and Boiler during a given month)

Plus

(Controlled Emission Rate from the stack test (lb/hr))*(hours E11 controlled by just a Boiler during a given month)

Plus

(Controlled Emission Rate from the stack test (lb/hr))*(hours E14 controlled by just a Boiler during a given month)

Plus

For the 40K Scrubber concerning E11 (Hair Hydrolyser) and/or E14 (Dupps Cooker) in place of the boilers regardless of emissions from equipment (E5, E6, E7, E8, E8a, E8b, E8c, E11, E12, E13a, E13b, and E14):

(Controlled Emission Rate from the stack test (lb/hr))*(hours E11 controlled by both; Condenser and 40K Scubber during a given month)

Plus

(Controlled Emission Rate from the stack test (lb/hr))*(hours E14 controlled by both; Condenser and 40K Scubber during a given month)

Plus

(Controlled Emission Rate from the stack test (lb/hr))*(hours E11 controlled by just the 40K Scrubber during a given month)

Plus

(Controlled Emission Rate from the stack test (lb/hr))*(hours E14 controlled by just the 40K Scrubber during a given month)

Plus

For periods when E11 (Hair Hydrolyser) and/or E14 (Dupps Cooker) are uncontrolled by either the Boiler or any Scrubber:

(Uncontrolled Emission Rate (lb/hr))*(hours E11captured but uncontrolled by any; Condenser, Boiler, or Scrubber during a given month)

Plus

(Uncontrolled Emission Rate (lb/hr))*(hours E14 captured but uncontrolled by any; Condenser, Boiler, or Scrubber during a given month)

Plus

(Uncontrolled Emission Rate (lb/hr))*(hours E11 controlled by only; Condenser and nothing else during a given month)

Plus

(Emission Rate (lb/hr))*(hours E14 controlled by only; Condenser and nothing else during a given month)

Plus

For the 40K Scrubber concerning only equipment (E5, E6, E7, E8, E8a, E8b, E8c, E12, E13a, and E13b), regardless of whether or not it is being used to control E11 (Hair Hydrolyser) and/or E14 (Dupps Cooker):

(Uncontrolled Emission Rate for the 40K Scrubber (lb/hr))*(hours E5, E6, E7, E8, E8a, E8b, E8c, E12, E13a, and E13b captured but uncontrolled during a given month)

Plus

(Emission Rate for the 40K Scrubber (lb/hr))*(hours E5, E6, E7, E8, E8a, E8b, E8c, E12, E13a, and E13b controlled during a given month)

Plus

For the 75K Scrubber (Fugitive emissions from E5, E6, E7, E8, E8a, E8b, E8c, E11, E12, E13a, E13b, E14):

(Uncontrolled Emission Rate for 75K Scrubber (6.492 lb/hr))*(hours captured but uncontrolled during a given month)

Plus

(Emission Rate for 75K Scrubber (1.156 lb/hr))*(hours controlled during a given month)

Plus

For the 75K Scrubber (Uncontrolled emissions from E5, E6, E7, E8, E8a, E8b, E8c, E11, E12, E13a, E13b, E14 captured as room air):

(Emission Rate for 75K Scrubber (lb/hr))*(1-0.822)*(hours E11 not captured by condenser during a given month but captured and controlled by the 75K Scrubber)

Plus

(Emission Rate for 75K Scrubber (lb/hr))*(1-0.822)*(hours E14 not captured by condenser during a given month but captured and controlled by the 75K Scrubber)

Plus

(Emission Rate for 75K Scrubber (lb/hr))*(1-0.822)*(hours E11 controlled by

condenser during a given month then released but captured and controlled by the 75K Scrubber)

Plus

(Emission Rate for 75K Scrubber (lb/hr))*(1-0.822)*(hours E14 controlled by condenser during a given month then released but captured and controlled by the 75K Scrubber)

Plus

(Emission Rate for 75K Scrubber (lb/hr))*(1-0.822)*(hours E5, E6, E7, E8, E8a, E8b, E8c, E12, E13a, and E13b not captured by 40K Scrubber during a given month but captured and controlled by the 75K Scrubber)

Plus

For the 20K Scrubber (Wastewater) (E15):

(Inlet Emission Rate for 20K Scrubber (0.994 lb/hr))*(hours uncontrolled during a given month)

Plus

(Inlet Emission Rate for 20K Scrubber (0.278 lb/hr))*(hours controlled during a given month)

Plus add the emissions for the gluing operation to demonstrate compliance with the 22 tons per 12 consecutive month limt.

For the Gluing Operation (E17):

(Pounds of adhesive used for the month)*(0.001)

If there were any hours during the month where any of the controls were not operating properly, then the owner or operator shall calculate the monthly and 12 consecutive month plant-wide VOC emissions to demonstrate compliance with the 22.0 tons per 12 consecutive month period. The following equation shall be used to calculate monthly VOC emissions.

Plant-wide:

VOC Emissions = (Pounds of VOC from emission points E5, E6, E7, E8, E8a, E8b, E8c, E11, E12, E13a, E13b, E14, Emission Unit U3 wastewater treatment (E15), and hot melt gluing operation(E17) /month) + (Pounds of VOC emissions from combustion/month)

c. For PM emissions:

Based on AP-42 emission factors (1.20 lb PM/ton product), the potential controlled PM emissions from the blood dryer are below the applicable PM emission standards; therefore, the source is required to monitor the performance of the control devices.

(2500 lb/hr)(1.2 lb PM/2000 lb)(8760 hr/yr)(ton/2000 lb) = 6.57 tpy controlled
(2500 lb/hr)(1.2 lb PM/2000 lb) = 1.5 lb/hr controlled
(1.5 lb/hr)/(1 - 0.75) = 6 lb/hr uncontrolled
75% Control Efficiency: 1.20 / 0.25 = 4.8 lb PM/ton uncontrolled
(2500 lb/hr)(4.80 lbPM/2000 lb)(8760 hr/yr)(ton/2000 lb) = 26.28 tpy uncontrolled

For the Dupps continuous cooker, the potential uncontrolled PM emissions are below the lb/hr standard. An emission rate of 9.72 lb PM/hr product shall be used to determine the uncontrolled PM emissions, 2.43 lb/hr for PM emissions controlled by primary controls, and 3.33 lb/hr for PM emissions controlled by backup controls based on stack test dated 11/20/2010.
For the hair hydrolyzer, the potential uncontrolled PM emissions are below the lb/hr standard. An emission rate of 1.08 lb PM/hr shall be used to determine the uncontrolled PM emissions, 0.27 lb/hr for PM emissions controlled by primary controls, and 0.37 lb/hr for PM emissions controlled by backup controls based on stack test dated 11/20/2010
For the pet food grinder and surge hopper, the potential uncontrolled PM emissions are below the lb/hr standard. An emission factor of 0.01 lb PM/ton shall be used to determine the controlled PM emissions based on a maximum throughput of 11,000 lb/hr, 0.01% PM loss, and a control efficiency of 95% for the 75K cfm packed-bed scrubber.
(11,000 lb/hr)(0.0001)(8760 hr/yr)(ton/2000 lb) = 4.82 tpy uncontrolled
(4.82 tpy)(1 - 0.95) = 0.241 tpy controlled
(0.055 lb/hr)(1 hr/5.5 tons) = 0.01 lb PM/ton processed controlled

For the hammer mill, the potential uncontrolled PM emissions are below the lb/hr standard. An emission factor of 0.01 lb PM/ton shall be used to determine the controlled PM emissions based on a maximum throughput of 15,000 lb/hr, 0.01% PM loss, and a control efficiency of 95% for the 75K cfm packed-bed scrubber.
(15,000 lb/hr)(0.0001)(8760 hr/yr)(ton/2000 lb) = 6.57 tpy uncontrolled
(6.57 tpy)(1 - 0.95) = 0.328 tpy controlled
(0.075 lb/hr)(1 hr/7.5 tons) = 0.01 lb PM/ton processed controlled

Based on AP-42, section 9.5.3-2, the emission factor for hydrogen sulfide is 0.08 lb/ton processed. Per Regulation 7.09, section 3.1, the emission standards for H_2S is 10 grains/100 dscf. The volumetric air flow rate for the blood dryer is 1600 scfm.
Allowable H_2S Emission Rate: (1600 ft3/min)(60 min/hr)(10 grain/100 ft3)(1 lb/7000 gr) = 1.37 lb/hr
(0.08 lb/ton)(2500 lb/hr)(ton/2000 lb) = 0.10 lb/hr

Based on AP-42 emission factor of 1.20 lb PM/ton product for emissions from a blood dryer, the potential uncontrolled PM emissions from each of the process cyclone separators is (2500 lb/hr)(1.2 lbPM/ton) (ton/2000 lb) = 1.5 lb/hr controlled and assuming 75% control efficiency (1.5 lb/hr)/(1 - 0.75) = 6 lb/hr. Therefore, the potential controlled PM emissions are below the standard.
The Hair Hydrolyzer (E11) and the Dupps Continuous Cooker (E14) both only use steam from the boilers, therefore the NOx standard in Regulation 7.08 does not apply.
For the Blood Dryer (E8), based on an air flow of 3333 acfm and a density of air of 0.075 lb/ft3 @ 70°F and 14.7 psia that would equal 15000 lbair/hr. Using the burner size of 3.5 MMBtu/hr divided by the heat content of natural gas of 1020 MMBtu/mmcf multiplied by the AP-42 emission factor for natural gas of 100 lbNOx/mmcf, this would equal 0.343 lbNOx/hr. (0.343 lbNOx/hr)/(15000

lbair/hr) would equal 22.87 ppm, which is below the standard of 300 ppm. Since the emission standard cannot be exceeded there are no monitoring, record keeping, or reporting requirements for this standard.

7. Insignificant Activities:

Equipment	Quantity	Basis for Exemption
Storage tanks - diesel or fuel oil (not for sale)	1	Regulation 1.02, section 1.38 and Appendix A
Brazing, soldering or welding	1	Regulation 1.02, section 1.38 and Appendix A
Lab ventilating (non-radioactive materials)	1	Regulation 1.02, section 1.38 and Appendix A
Portable diesel or gasoline tanks < 500 gal	1	Regulation 1.02, section 1.38 and Appendix A
General Building Maintenance (Painting)	N/A	EPA White Paper
Hog Singer	1	Regulation 1.02, section 1.38 and Appendix A
ALKAR Cooker/Dryer Oven	2	Regulation 1.02, section 1.38 and Appendix A